LPDES PERMIT NO. LA0109860, AI NO. 26034, ACTIVITY NO. PER20050002

LPDES STATEMENT OF BASIS (FACT SHEET) AND RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

COMPANY/FACILITY: Louisiana Energy and Power Authority
Plaquemine Steam Power Plant
59335 W.W. Harleaux Boulevard
Plaquemine, LA 70764

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

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DATE PREPARED: March 9, 2006

1. PERMIT STATUS

A. Reason For Permit Action:
Reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301.F, 4901, and 4903.

B. LPDES permit: LA0109860
LPDES permit effective date: November 1, 2000
LPDES permit expiration date: October 31, 2005

C. Date Application Received: October 26, 2005

2. FACILITY INFORMATION

A. LOCATION – 59335 W.W. Harleaux Boulevard.
(Latitude: 30° 16' 23" Longitude: 91° 15' 24")

B. FACILITY TYPE/ACTIVITY – According to the application, the Plaquemine Steam Power Plant is an electric generating station consisting of two fossil fuel fired steam turbine/generator units and associated facilities, offices, maintenance areas and auxiliary buildings. The plant operates on an as needed basis and the discharges or intermittent in nature. Stormwater runoff is permitted under LPDES General Permit LAR05M027.

The Plaquemine Steam Power Plant is an existing electric generating facility that uses water from a municipal water supply. This facility is not regulated by Section 316(b) of the Clean Water Act for cooling water intake structures since it does not have an intake structure which withdraws water from waters of the state.

C. TECHNOLOGY BASIS - (40 CFR Chapter 1, Subchapter N/Parts 401, and 405-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Steam Electric Power Generating Point Source Category	40 CFR 423

Other sources of technology based limits:
Best Professional Judgement

D. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: IV
3. Wastewater Type: III
4. SIC code: 4911

3. RECEIVING WATER

A. Stream: Bayou Plaquemine via unnamed parish drainage canal

B. Basin and Subsegment: Terrebonne, Segment 120106

C. Designated Uses - primary contact recreation, secondary contact recreation, and propagation of fish and wildlife

4. OUTFALL INFORMATION

Outfall 001

A. Discharge Type:	The intermittent discharge of low volume wastewater, including but not limited to demineralizer wastewater, boiler blowdown, floor drain wastewaters, and previously monitored cooling tower blowdown from Internal Outfalls 101 and 201.
B. Treatment:	None
C. Location:	At the point of discharge from the discharge pipe located on the southwest corner of the property prior to mixing with other waters. (Lat 30° 16' 23", Lon 91° 15' 24")
D. Flow:	150,000 GPD when discharging
E. Discharge Route:	Bayou Plaquemine via unnamed parish drainage canal
F. Basin and Segment:	Terrebonne Basin, Segment 120106

Internal Outfall 101

A. Discharge Type:	The intermittent discharge of cooling tower blowdown from cooling tower # 1.
B. Treatment:	None
C. Location:	At the point of discharge from the cooling tower # 1's sampling point located at the north end of the building prior to mixing with other waters. (Lat 30° 16' 23", Lon 91° 15' 24")
D. Flow:	50,000 GPD when discharging
E. Discharge Route:	Discharged through Final Outfall 001
F. Basin and Segment:	Terrebonne Basin, Segment 120106

Internal Outfall 201

A. Discharge Type:	The intermittent discharge of cooling tower blowdown from cooling tower # 2.
B. Treatment:	None
C. Location:	At the point of discharge from the cooling tower # 2's sampling point located at the south end of the building prior to mixing with other waters. (Lat 30° 16' 23", Lon 91° 15' 24")
D. Flow:	50,000 GPD when discharging
E. Discharge Route:	Discharged through Final Outfall 001
F. Basin and Segment:	Terrebonne Basin, Segment 120106

5. PREVIOUS EFFLUENT LIMITATIONS

See Appendix A - previous permit limits.

6. SUMMARY OF PROPOSED PERMIT CHANGES

A. The discharge of boiler blowdown which was previously permitted as Final Outfall 002 has been routed through Final Outfall 001. As a result of this discharge reroute, Outfall 002 has been deleted.

B. The measurement frequency for flow in Outfall 001 has been increased from once per month to once a day when discharging.

C. The temperature reporting requirements have been removed from Internal Outfalls 101 and 201 and placed at Final Outfall 001. Temperature is a water quality based parameter, which makes sampling at the Final Outfall more appropriate than at the Internal Outfalls.

D. The monitoring frequency for total chromium in Internal Outfalls 101 and 201 has changed from once per month to once per year.

E. The Part II Section describing a 25-year, 24-hour precipitation event has been removed.

F. The definition of chemical metal cleaning waste has been incorporated in Part II under the prohibition of metal cleaning wastewaters section.

G. The condition that "Free available chlorine may not be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available chlorine at any one time" has been incorporated in accordance with 40 CFR 423.13 (b)(2).

7. PROPOSED PERMIT LIMITS

The specific effluent limitations and/or conditions will be found in the draft permit. Development of permit limits are detailed in the Permit Limit Rationale section below.

8. PERMIT LIMIT RATIONALE

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, MONITORING FREQUENCIES AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The permittee is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Steam Electric Power Generating Point Source Category	40 CFR 423

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)].

Outfall 001

1. General Comments

According to the application, this outfall discharges low volume wastewater, including but not limited to demineralizer wastewater, boiler blowdown, floor drain wastewaters, and previously monitored cooling tower blowdown from Internal Outfalls 101 and 201 on an intermittent basis. The discharge from this outfall, when the facility is operating, is 150,000 GPD.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	Report	Report	1/day	Estimate
Temperature (°F)	Report	Report*	1/month	Grab
TSS	30 mg/l	100 mg/l	1/month	Grab
Oil & Grease	15 mg/l	20 mg/l	1/month	Grab
pH –Allowable Range (standard units)	6.0 Minimum	9.0 Maximum	1/month	Grab

* Instantaneous maximum.

Flow - The current LPDES permit established reporting requirements for monthly average and daily maximum flows based on LAC 33:IX.2707.I.1.b/40 CFR 122.44(I)(1)(ii). The reporting requirement is retained; however the monitoring frequency has changed to once per day by estimation using best engineering judgement, when discharging. This monitoring frequency is consistent with current LDEQ permitting practices for permitting electric power generating facilities.

Temperature - The current LPDES permit established monthly average and daily maximum reporting requirements in Internal Outfalls 101 and 201, which have been moved to Outfall 001. These reporting requirements are retained with the same monitoring frequency and sample type of once per month by grab, when discharging.

Total Suspended Solids - The current LPDES permit established a monthly average limitation of 30 mg/L and a daily maximum limit of 100 mg/L based on 40 CFR 423.12(b)(3) and (11). These limitations are retained with the same monitoring frequency of once per month by grab sample, when discharging.

Oil and Grease - The current LPDES permit established a monthly average limitation of 15 mg/L and a daily maximum limit of 20 mg/L based on 40 CFR 423.12(b)(3) and (11). These limitations are retained with the same monitoring frequency of once per year by grab sample, when discharging.

pH - The current LPDES permit established a minimum limit of 6.0 standard units and a maximum limit of 9.0 standard units for pH in accordance with 40 CFR 423.12(b)(1). These limitations are retained with the same monitoring frequency of once per month by grab sample, when discharging.

Internal Outfall 101

1. General Comments

   According to the application, this outfall discharges cooling tower blowdown from cooling tower # 1 on an intermittent basis. The discharge from this outfall, when the facility is operating, is 50,000 GPD.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	Report	Report	1/month	Estimate
Free Available Chlorine	0.2 mg/l	0.5 mg/l	1/month	Grab*
Total Chromium	0.2 mg/l	0.2 mg/l	1/year	Grab
Total Zinc	1 mg/l	1 mg/l	1/month	Grab

* Sample shall be representative of any periodic episodes of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

Flow - The current LPDES permit established reporting requirements for monthly average and daily maximum flows based on LAC 33:IX.2707.I.1.b/40 CFR 122.44(I)(1)(ii). The reporting requirement is retained with the same monitoring frequency of once per month by estimation using best engineering judgement, when discharging.

Free Available Chlorine - A monthly average limitation of 0.2 mg/L and a daily maximum limit of 0.5 mg/L has been established in this draft LPDES permit. These limitations are based on 40 CFR 423.13(d)(1) and (g). The monitoring frequency has been retained from the current LPDES permit at once per month by grab sample, during times of chlorination, when discharging.

Total Chromium - The current LPDES permit established a monthly average limitation of 0.2 mg/L and a daily maximum limit of 0.2 mg/L based on 40 CFR 423.13(d)(1) and (g). These limitations are retained; however, the monitoring frequency has changed to once per year by grab sample, when discharging. This monitoring frequency change is consistent with current LDEQ practices for permitting cooling tower blowdown from electric generating power plants.

Total Zinc - The current LPDES permit established a monthly average limitation of 1 mg/L and a daily maximum limit of 1 mg/L based on 40 CFR 423.13(d)(1) and (g). These limitations are retained with the same monitoring frequency of once per month by grab sample, when discharging.

Internal Outfall 201

1. General Comments

   According to the application, this outfall discharges cooling tower blowdown from cooling tower # 2 on an intermittent basis. The discharge from this outfall, when the facility is operating, is 50,000 GPD.

2. Effluent Limitations, Monitoring Frequencies, and Sample Types

EFFLUENT CHARACTERISTIC	LIMITATION Units (Specify)		MONTORING REQUIREMENTS	
	MONTHLY AVERAGE	DAILY MAXIMUM	MEASUREMENT FREQUENCY	SAMPLE TYPE
Flow (MGD)	Report	Report	1/month	Estimate
Free Available Chlorine	0.2 mg/l	0.5 mg/l	1/month	Grab*
Total Chromium	0.2 mg/l	0.2 mg/l	1/year	Grab
Total Zinc	1 mg/l	1 mg/l	1/month	Grab

* Sample shall be representative of any periodic episodes of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.

Flow - The current LPDES permit established reporting requirements for monthly average and daily maximum flows based on LAC 33:IX.2707.I.1.b/40 CFR 122.44(I)(1)(ii). The reporting requirement is retained with the same monitoring frequency of once per month by estimation using best engineering judgement, when discharging.

Free Available Chlorine - A monthly average limitation of 0.2 mg/L and a daily maximum limit of 0.5 mg/L has been established in this draft LPDES permit. These limitations are based on 40 CFR 423.13(d)(1) and (g). The monitoring frequency has been retained from the current LPDES permit at once per month by grab sample, during times of chlorination, when discharging.

Total Chromium - The current LPDES permit established a monthly average limitation of 0.2 mg/L and a daily maximum limit of 0.2 mg/L based on 40 CFR 423.13(d)(1) and (g). These limitations are retained; however, the monitoring frequency has changed to once per year by grab sample, when discharging. This monitoring frequency change is consistent with current LDEQ practices for permitting cooling tower blowdown from electric generating power plants.

Total Zinc - The current LPDES permit established a monthly average limitation of 1 mg/L and a daily maximum limit of 1 mg/L based on 40 CFR 423.13(d)(1) and (g). These limitations are retained with the same monitoring frequency of once per month by grab sample, when discharging.

Part II Specific Conditions

PROHIBITION OF PCB DISCHARGES

As commanded by 40 CFR 423.15(b), a Part II condition is proposed in this draft permit prohibiting the discharge of polychlorinated biphenyl compounds.

"There shall be no discharge of polychlorinated biphenyls (PCB's). The minimum quantification level for PCB's is 1.0 µg/l. If any individual analytical test result for PCB's is less than the minimum quantification level, then a value of zero (0) shall be used for the Discharge Monitoring Report (DMR) calculations and reporting requirements."

FREE AVAILABLE CHLORINE

The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in the latest edition of Standard Methods for the Examination of Water and Wastewater.

Free available chlorine may not be discharged from any unit for more than two hours in any one day and not more than one unit in any plant may discharge free available chlorine at any one time.

TEMPERATURE

Daily temperature discharge is defined as the flow-weighted average (FWAT) and, on a daily basis, shall be monitored and recorded in accordance with Part I of this permit. FWAT shall be calculated at equal time intervals not greater than two hours. The method of calculating FWAT is as follows:

$$\text{FWAT} = \frac{\text{SUMMATION (INSTANTANEOUS FLOW X INSTANTANEOUS TEMPERATURE)}}{\text{SUMMATION (INSTANTANEOUS FLOW)}}$$

"Daily average temperature" (also known as average monthly or maximum 30 day value) shall be the arithmetic average of all FWATs calculated during the calendar month.

PROHIBITION OF METAL CLEANING WASTEWATERS

The permittee is prohibited from discharging metal cleaning wastewater or chemical metal cleaning wastewater to the waters of the state. If generated, these wastewaters must be transported offsite for proper disposal.

PERMIT REOPENER CLAUSE

In accordance with LAC 33:IX.2903, this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2. Controls any pollutant not limited in the permit; or

3. Require reassessment due to change in 303(d) status of waterbody; or

4. Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body.

9. COMPLIANCE HISTORY/COMMENTS

A. A review of LDEQ records from the time period of January 2003, through December 2005 was conducted and no records of enforcement actions were found during this time frame.

B. The most recent inspection was conducted on January 21, 2004. No issues of concern were noted.

C. A DMR review of all of the monitoring reports for the period of January 2003 through December 2005 revealed that there were no effluent violations. However, there were several DMR deficiencies noted during the course of the review. The DMR deficiencies included:

1. Monthly DMRs were not submitted properly from January 2003 – January 2005. [NOTE: The facility monitored Outfalls 001, 002, 101, and 201 on a monthly basis; however, the sample values were reported on one DMR for each period specified above. The sample values should have been reported on separate DMRs for each month and submitted on a quarterly basis.]

2. There were no DMRs in the file reviewed for Internal Outfall 101 for the 1st quarter of 2003and the 2nd quarter of 2004.

3. The DMRs for Internal Outfall 101 for the 2nd quarter of 2003, the 4th quarter of 2003, and the 1st quarter of 2004 were incorrectly labeled as Internal Outfall 102.

4. There were no DMRS in the file reviewed for the 3rd quarter of 2003 or the 1st quarter of 2005.

5. There were no DMRS in the file reviewed for the 1st quarter of 2004 for Outfalls 001, 002, and Internal Outfall 102.

10. WATER QUALITY CONSIDERATIONS

The discharges from this facility consist of cooling tower blowdown and low volume waste waters to Bayou Plaquemine via unnamed drainage canal of the Terrebonne Basin, Segment No. 120106. Louisiana's Final 2004 Section 303(d) List of Impaired Waterbodies Requiring a TMDL (2004 List) revealed that the Terrebonne Basin, Segment No. 120106 is listed on the 303(d) list as being impaired for nutrients, organic enrichment/low DO, and turbidity. To date, no Total Maximum Daily Loading (TMDL) assessments have been completed for this waterbody. TMDLs for organic enrichment/low DO, nutrients, and turbidity are scheduled to be completed in 2007-2008.

The discharges from Outfall 001 are not suspected to cause or contribute to oxygen demanding parameters; therefore, there has not been any effluent limitations established in this draft permit for organic enrichment/low DO or nutrients.

The discharges from Outfall 001 are not suspected to cause or contribute to the turbidity impairments of Bayou Plaquemine since the discharge is infrequent in nature. However, to protect against instances where the water may have turbidity associated with the discharge, effluent limitations for TSS have been established in the permit.

11. EDANGERED SPECIES

The receiving waterbody, Subsegment 120106 of the Terrebonne Basin, is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 21, 2005, from Watson (FWS) to Gautreaux (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

12. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

13. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for discharges described in the application.

14. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the proposed issuance of LPDES individual permits and may request a public hearing to clarify issues involved. This Office's address is on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

A local newspaper of general circulation and
The Office of Environmental Services Public Notice Mailing List.

APPENDIX A

PREVIOUS EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 001 - the intermittent discharge of low volume wastewater including but not limited to demineralizer wastewater, boiler blowdown, and floor drains wastewater, and previously monitored cooling tower blowdown from internal outfalls 101 and 201 (estimated flow is 12,500 GPD).
Outfall 002 - the intermittent discharge of boiler blowdown from boiler #2 (estimated flow is 3,000 GPD).

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
		(lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		
	STORET Code	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency (*1)	Sample Type
Flow-MGD	50050	Report	Report	---	---	1/month	Estimate
TSS	00530	---	---	30	100	1/month	Grab
Oil & Grease	03582	---	---	15	20	1/month	Grab
pH Minimum/Maximum Values (Standard Units)	00400	---	---	6.0 (*2) (Min)	9.0 (*2) (Max)	1/month	Grab

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location:

Outfall 001, at the point of discharge from the drainage pipe located in the southwest corner of the property

Outfall 002, at the point of discharge from the drainage pipe located in the rear of the property, perpendicular to the southern boundary

FOOTNOTE:

(*1) When discharging.

(*2) The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

During the period beginning the effective date and lasting through the expiration date the permittee is authorized to discharge from:

Outfall 101 - the intermittent discharge of cooling tower blowdown from cooling tower #1 (estimated flow is 5,000 GPD)
Outfall 201 - the intermittent discharge of cooling tower blowdown from cooling tower #2 (estimated flow is 5,000 GPD)

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic		Discharge Limitations (lbs/day, UNLESS STATED)		Other Units (mg/L, UNLESS STATED)		Monitoring Requirements	
	STORET Code	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Measurement Frequency (*1)	Sample Type
Flow-MGD	50050	Report	Report	---	---	1/month	Estimate
Temperature	74013	---	---	Report(*2)	Report(*2&3)	1/month	Grab
Free Available Chlorine	50064	---	---	0.2	0.5	1/month(*4)	Grab
Total Chromium	01034	---	---	0.2	0.2	1/month	Grab
Total Zinc	01092	---	---	1.0	1.0	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations:

Outfall 101, at the point of discharge from cooling tower #1's sampling point located inside of the building on the north end of level 1.

Outfall 201, at the point of discharge from cooling tower #2's sampling point located inside of the building on the south end of level 1.

FOOTNOTES:

(*1) When discharging.

(*2) See Part II, Paragraph Q.

(*3) Instantaneous maximum.

(*4) Sample shall be representative of periods of chlorination.